

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 January 2006 (26.01.2006)

PCT

(10) International Publication Number
WO 2006/007883 A1

(51) International Patent Classification⁷: **G01N 21/64**

(21) International Application Number:
PCT/EP2005/002270

(22) International Filing Date: 2 March 2005 (02.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0404982.1 5 March 2004 (05.03.2004) GB

(71) Applicant (for all designated States except US): **SMART LIGHT DEVICES IRELAND LIMITED** [GB/GB]; TEIC Building, University of Ulster, Jordanstown Campus, Shore Road, Newtownabbey, County Antrim BT37 0QB (GB).

(71) Applicant and

(72) Inventor (for all designated States except US): **LUNNEY, Frank** [GB/GB]; 56 Upper Malone Gardens, Belfast BT9 6LY (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **McSTAY, Daniel**

[GB/GB]; 6 Kirkton of Durris, Banchory, Aberdeenshire AB31 6BQ (GB). **FORTE, Anton** [GB/GB]; 9 Watermead Avenue, Greyabbey, County Down BT22 2XA (GB). **THABETH, Khalid** [GB/GB]; 5 Treetops Lane, Doagh Road, Newtownabbey, County Antrim BT36 6XH (GB). **GREENAWAY, Terrence** [GB/GB]; 14 Gilnahirk Rise, Belfast BT5 7DT (GB).

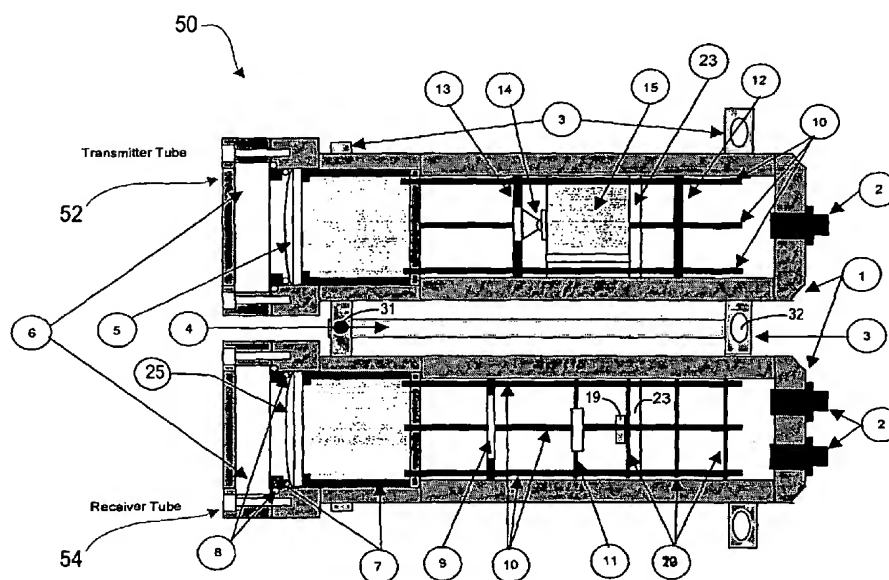
(74) Agents: **WALLACE, Alan** et al.; F.R. Kelly & Co., 4 Mount Charles, Belfast BT7 1NZ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: **FLUOROMETER**



(57) Abstract: A fluorometer comprising an excitation system including an excitation source for producing excitation light capable of causing fluorescence in fluorescent material; and a detection system for detecting said fluorescence. The excitation source comprises one or more light emitting diodes (LEDs) associated with means for causing said excitation light to form a beam that projects, during use, from the fluorometer. In one embodiment, the excitation system and the detection system are located in respective separate housings, the angular disposition between the housings being adjustable. In other embodiments, the excitation system and the detection system are located in the same housing. The fluorometer is particularly suited for use in detecting leaks in aqueous environments, especially when mounted on an underwater vehicle.



WO 2006/007883 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.